



Akdeniz Language Studies Conference 2012

Aligning pedagogy of American business language with marketing students' preferred learning styles

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Abstract

As educators focused on students' business literacy in marketing communication, we researched: (1) Can we identify preferred learning styles for marketing communication majors; (2) Can we align pedagogy with their preferences; (3) Will doing so increase student engagement as measured by learning outcomes. The authors administered Fleming's (2001) on-line instrument to N = 691 students to determine student learning styles (Q1). Faculty matched pedagogy to learning styles (Q2). Students (Q3) completed a pre- and posttest instrument developed by the authors. We used a Solomon Four-Square Design to isolate specific threats to validity and a one-way ANOVA to test for effects of treatment effect. Results support Qs 1 and 2; Q3 results provide meaningful insights.

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Selection and peer-review under responsibility of ALSC 2012

Keywords: Learning styles; marketing pedagogy; learning outcomes; business literacy; engagement; learning approaches; alignment

1. Introduction

For many business schools and marketing programs, business literacy is a key objective of comprehensive learning outcomes. Pedagogical approaches recognize the student-centered learning as crucial to advancing student learning outcomes. The American Assembly of Collegiate Schools of Business Task Force on Effective and Inclusive Learning Environments (1998) recognized the need for congruence between students' learning and teaching styles. Learning style refers to those educational conditions under which a student is most likely to learn. "It describes *how* a student learns, not *what* was learned." (Stewart, Felicetti, 1992, p. 15). Existing research (Hawk & Shah, 2007; Hoover, 2007; Raynor, 2007) suggests that when a learning experience matches a student's learning style, students

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typically are more satisfied (Entwistle, Hanley & Hounsell, 1979) and thus more likely to engage in their own learning.

While learning styles are a part of the pedagogical approach to developing business literacy (Davis, Misra, Van Aukun, 2000), little research has related those learning style preferences to students' engagement in their own learning in marketing courses, and almost no research has linked engagement to increased learning outcomes. As teachers of the marketing language of American business, we wanted to align the pedagogy to students' preferred learning styles (Howe & Straus, 2000, 2003, 2005; Holliday & Qin, 2004). We researched: (1) Can we identify the students' preferred learning style? (2) Can we deliver content in their preferred learning style? (3) Will doing so increase student engagement as measured by learning outcomes? This study pursues these questions in a sequential method and provides observations for marketing educators who want to pursue pedagogical approaches to expand business literacy for career-ready graduates.

2. Literature review

There is a growing body of knowledge about today's students and their expectations of the undergraduate experience. McGlynn (2008); Holliday & Qin (2004); Howe and Strauss (2000, 2005); Barr & Tagg (1995) among others tell us today's students expect to engage in their own learning. One way of engaging students, Chickering and Gamson (1987) write, is to "respect diverse talents and ways of knowing" (p. 6). Felder and Silverman (1988) define ways of knowing, or how students receive and process information, as a student's learning style.

2.1 *Student learning*

Dunn and Dunn (1978), forerunners in understanding the importance of the students' learning style, wrote, "when exposed to a teaching style consonant with the way students believe they learn, students score higher on tests, fact knowledge, attitude and efficiency. . . ." (p. 4). Many respected educators and authors, including Gardner (1983); Diamond (1989); DeBello (1990); Biggs & Moore (1993); Dunn and Griggs (2000); Sternberg (2001); Weimer (2002); Wilson (2004); Hoover (2007); Morton, et al (2007); Prugsamatz, Heaney & Alpert (2007); and, Raynor (2007) argue for a pedagogy that considers the student's preferred learning style.

2.2 *Student learning style models*

Felder and Silverman (1988) determined student learning outcomes are related to the "compatibility of his or her learning style and the instructor's teaching style." In their update (Felder, 2002), Felder and Silverman define a learning-style model as a means of segmenting students according to how they receive and process information.

In 2006, researchers at Pennsylvania State University examined the work of five educators and their models, and made the review available on the Pennsylvania State web site. The models included the Dunn & Dunn Productivity Environmental Preference Survey; Felder-Silverman Index of Learning Styles; Perry Model of Intellectual Development; Fleming's VARK Learning Style Inventory; and Gardner's Multiple Intelligences Model.

Hawk and Shah (2007) also analyzed five prominent learning style models: The Kolb Learning Style Indicator; the Gregore Style Delineator; the Felder-Silverman Index of Learning Styles; the Fleming VARK Questionnaire; and, the Dunn and Dunn Productivity Environmental Preference Survey. Hawk

and Shah's data supports using "learning style instruments to inform the choice of learning activities and approaches (that) will enhance the effectiveness and quality of learning for students" (p. 5).

2.3 *VARK Learning Style Inventory (LSI)*

After careful review of the available research, the authors selected the Fleming's VARK Learning Style Inventory because the inventory seemed to more realistically represent the students at our private arts and media College.

The VARK LSI was created in 1992 by Neil Fleming of Lincoln University in New Zealand (Fleming & Mills, 1992). VARK is an acronym for visual (V), aural (A), read/write (R), and kinesthetic (K), which are "the sensory modalities that are used for *learning* (sic) information" (Fleming, 2001, p. 2). The VARK LSI provides metrics in each of the perceptual modes.

According to Fleming (1995), students who learn through visuals (V) prefer information that arrives in patterns, like graphs, charts, and spatially arranged material. Those who prefer learning by aural methods are coded A. Students who prefer this style like to learn through discussions with instructors and fellow students. Students who prefer to learn by the written word are coded R and are drawn to essays, reports, textbooks, and web pages, and are more inclined to take notes. Those who are kinesthetic learners (coded K) experience their learning through all their senses, including touch, hearing, smell, taste and sight. These students prefer learning by doing. Students whose preferred learning style combines all 4 modes are said to be multi-modal (MM), and may have dual or triple preferences.

Writing: "the use (of the VARK LSI). . . empowered students" (p. 137), Fleming and Mills (1992) concluded that the most realistic approach to accommodating students' learning styles is to make them aware of their preferred method of acquiring knowledge and then enable them to adjust their own learning behavior. Consistent with the design of the LSI, each student is provided with an inventory of his own learning style immediately upon completion of the instrument. The information also included suggested study and learning strategies for each student based on his/her learning style.

Moreover, for faculty use, the results from the LSI automatically populate a profile of the class. The profile has two dimensions: one for the class as a whole and a second reporting the learning style for each individual student. This profile informs faculty who wish to orient the pedagogy to the students' preferred learning styles.

2.4 *Learning styles and pedagogical implications for marketing majors*

Goebel, Humphrey and Miller (n.d.) write, ". . . there is a dearth of knowledge in the marketing discipline regarding the learning styles of its majors and if those learning styles are conducive to how courses are taught." (p. 5). Stewart and Felicetti (1992) directly addressed learning styles of marketing majors, comparing these students to randomly selected students in other majors. They concluded (1) marketing majors do in fact exhibit specific learning styles, and (2) marketing majors prefer stimulus rich learning environments. Taylor, Humphreys, Singley and Hunter (2004) write "good course design reflects and understanding and appreciation for diverse student learning preferences." (p. 43). In a 2003 study Young, Klemz and Murphy found that the use of instruction methods oriented to student learning styles increase performance and course grade in marketing curricula. Marketing faculty who know students' preferred learning styles may be more prepared to select appropriate pedagogical methods and also to recognize that a wide distribution of learning styles calls for multiple instructional methods. Davis, Misra, and Van Auker (2000) address the need for alignment between students who study marketing and

the curricula of the discipline. They found marketing students prefer active, applied pedagogies, including case analysis and projects, field trips and internships.

3. Method

3.1 Background

A private arts and media College in the Midwestern United States offers nearly 12,000 students a comprehensive learning experience in visual, media and the performing arts. With nearly 800 students, the Marketing Communication department at the institution provides its students with an intensive understanding of the disciplines of marketing, advertising and public relations. The approach unites traditional and emerging practices, educating students in the theories and practices of their chosen field (blind reference, n.d.). Two of the authors are full-time faculty in the Marketing Communication department.

3.2 Sample

N = 691 first- through fourth-year undergraduate students in the Marketing Communication department; gender, ethnicity, and race were not considered germane to the study.

3.3 Application

During the first session of the fall and spring semesters in 2007 and 2008 and the fall semester 2009, N = 691 students completed the 13-question, on-line VARK LSI in class. Of N = 691, N = 289 and N = 282 were subjects in two separate phases to test for student engagement with and without treatment (treatment is defined as pedagogy oriented to students' preferred learning style). In fall 2008 N = 10 Marketing Communication faculty oriented the pedagogy to N = 289 students' preferred learning styles. To test for student engagement with and without treatment, the authors used a nonequivalent control group design with CG N = 199 and test groups TG1 N = 7; TG2 N = 83. In fall 2009 the authors used a Solomon four-group design to isolate specific threats to validity using a pre- and posttest to measure engagement. N = 282 students taught by N = 8 faculty in 12 courses were grouped into four levels: S1N = 14 students not subjected to treatment did the posttest; S2 N = 46 students subjected to treatment did posttest; S3 N = 32 students not subjected to treatment did pre- and posttest; S4 N = 190 students subjected to treatment did pre- and posttest.

4. Results and discussion

4.1 Question 1: Can we identify the preferred learning style for Marketing Communication majors?

Table 1 reflects a comparison of data from N = 691 College students and Fleming's sample (N = 28,541). There were variations in all categories in both samples. Variations were most pronounced in A and R. However, the results for the V and K were consistent. Perhaps most significantly, the MM learning style was internally comparable in each semester. While there were some differences in actual percentages between data from Fleming and College, especially notable in those students with R modes, overall the authors found statistically significant correlations.

Table 1: Comparison of Fleming learning style modes vs. College learning style modes

Modes	Fleming data 2008	Fleming data 2009	College data 2007-08, Fall
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					2009	
A	1040	6.6 (%)	1445	11.4 (%)	38	5.5 (%)
K	2026	12.8	2460	19.4	107	15.5
R	2924	18.4	2464	19.4	51	7.4
V	445	2.8	580	4.9	14	2.0
MM	9433	59.4	5728	45.2	481	69.6
	15,868	100.0%	12,673	100.0%	691	100.0

Though Fleming's reports of data collected worldwide lag College's data by one academic year, an assessment of the correlations reveal significant association and meaningful parallels between Flemings' greater sample size and College sample, sufficient to the authors to conclude marketing communication student learning styles can be reliably identified.

Table 2: Correlations between data: Fleming & College

Correlations: Fleming with College	
2008-09 All data	0.98
2009 Fleming v. College	0.96
2008 Fleming v. College	0.98

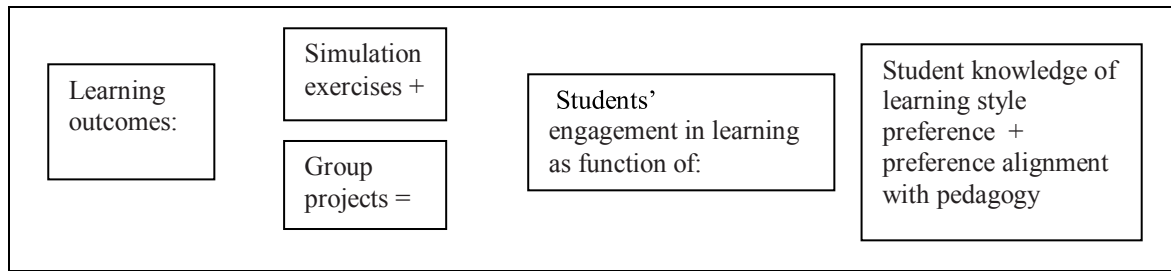
Because the sample represents students over five semesters, the results of the students' learning style preferences were examined to determine whether time introduced significant differences. Informed in part by work done by Dunn and Dunn (2009), Felder and Sperlin (2005), Keefe (1979), and Fleming (2001), all of whom found learning styles are stable over time, the authors concluded that timing was not a relevant factor in the results.

Based on these results the authors conclude that it is possible to identify marketing communication students' learning style preferences.

4.2 *Question 2: Can we align pedagogy with the Marketing Communication students' preferred learning style?*

In fall 2008, 289 students (N = 289) completed the VARK LSI and N = 10 Marketing Communication faculty were provided the students' profiles. Tapping multiple learning styles rather than focusing on customization to accommodate individual differences allows a broad range of options (Karns, 2006), so the authors provided the faculty with to one-on-one guidance and interpretive support. As pedagogical approaches, we adapted concepts outlined by Young, Klemz and Murphy (2003) and Taylor, Humphreys, Singley and Hunter (2004) which include simulation experiences, case analysis and group projects (Diagram 1). For additional recommendations, the authors relied on research and best practices by Diamond (1989; ps. 2-11 – 216); Felder and Silverman (1988; p. 678); Fleming (2001); Weimer (2002, pps. 74-94); and Tileston (2005; pps. 16-87). The authors presented workshops for faculty based on simulation exercises and group projects. To supplement the workshop material, the authors developed a Learning Style Strategy Worksheet for faculty to use in planning and delivering course content.

Diagram 1: Conceptual framework for Marketing Communication pedagogy orientation



Given in-class peer evaluations and observations and self-reports from faculty, the authors concluded course content aligned with the students' preferred learning style sufficient to serve as a foundation for further research into question 3.

4.3 Question 3: Does delivering content in the students' preferred learning style increase Marketing Communication students' willingness to engage in their own learning as measured by learning outcomes?

In fall 2008, students (N = 289) in 17 courses taught by 10 faculty (N = 10) were tested using a nonequivalent control group design with control group (CG; N = 199) and two test groups (TG1; N = 7; TG2; N = 83). Students in CG received no treatment nor did they complete the VARK LSI. Students in TG1 completed the VARK LSI without treatment. Students in TG2 completed the VARK LSI with treatment. To test for student engagement, the authors selected 6 questions from a battery of 30 questions in a standardized instrument used by the College. These 6 questions formed a new instrument to measure for engagement. Students in all courses responded to each question based on a 5-point Likert scale: Strongly agree (2); Agree (1); Neutral (0); Disagree (-1) and Strongly disagree (-2). Subsequently, a mean was derived for each question (Table 3) and comparisons were made between the three groups.

Table 3: Nonequivalent control group design for analysis of student engagement (N = 289)

	Control Group (CG) N = 199	Treatment Group (TG1) N = 7	Significant		Control Group (CG) N = 199	Treatment Group (TG2) N = 83	Significant
Q1	.91	1.14	N		.91	1.46	Y
Q2	.91	1.14	N		.91	1.40	N
Q3	.80	1.43	N		.91	1.64	Y
Q4	.95	1.57	N		.91	1.74	Y
Q5	.91	1.57	N		.91	1.78	Y
Q6	1.00	1.14	N		.91	1.64	Y

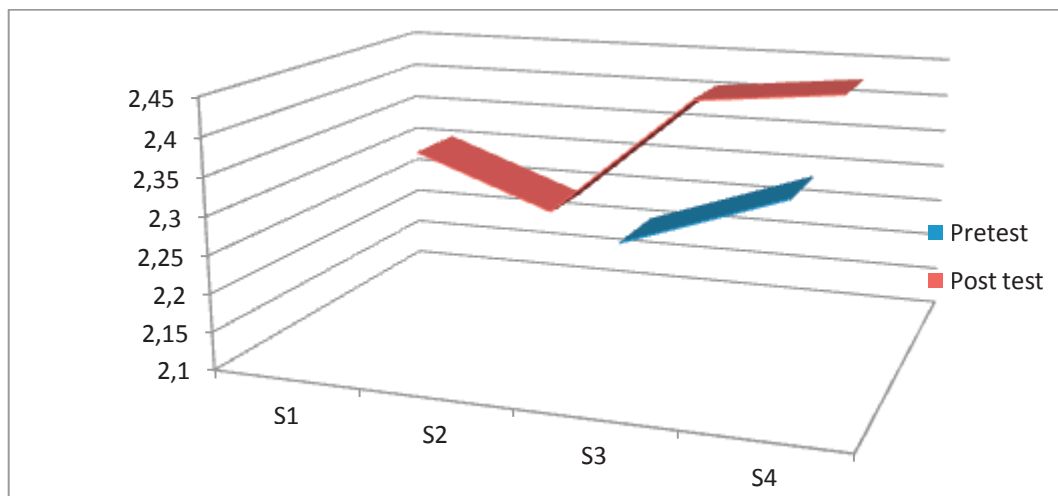
Pretest scores were subtracted from post test scores, and average gains were computed. The authors used a t-test to test for significance in gains. The results in TG1 convinced the authors that N = 7 may be too few student responses to reliably perform statistical analysis. However, in analyzing TG2 there are statistically significant differences between CG and TG2 in 5 of 6 questions based on an analysis of the mean for all answers of the CG and those of TG2. The authors concluded when a student knows his preferred learning style, and the instructor tailors the course content to match that preference, students' engagement increases.

However, because results were not conclusive, in fall 2009 the authors' developed a Solomon four-group design to isolate specific threats to validity using the authors' 6-question instrument as a pre and posttest. N = 282 students taught by N = 8 faculty in 12 courses were grouped into four levels: S1 N = 14 students not subjected to treatment did the posttest; S2 N = 46 students were subjected to treatment did the posttest; S3 N = 32 students not subjected to treatment did the pre- and posttest; S4 N = 190 students subjected to treatment did the pre- and posttest. The means for pretest and posttest results were determined (Table 4). To analyze results, the authors graphed for treatment and testing effect (Chart 1).

Table 4: Solomon Four-group design to analyze effect of pre- and posttest sensitization

	Pretest	Treatment	Posttest
S1 (N = 14)			2.31
S2 (N = 46)		X	2.24
S3 (N = 32)	2.29		2.41
S4 (N = 190)	2.36	X	2.43

Chart 1: S1S2S3S4: Comparisons to determine testing effect and treatment effect



In this outcome, one treatment group outscored its comparable control group (S4 outscored S3), however the other treatment group (S2) did not outscore its control group (S1). These results suggest there is inconclusive treatment effect. To test for effects of treatment, the authors applied a one-way ANOVA to all groups and a post-hoc test indicated a significant difference between S2 and S1. The initial test seems to indicate that treatment has an effect. The two groups without pretests scored lower in the posttests than the two groups that received a pretest. This suggests the pretest may have had an effect on posttest scores. The single posttest in S1 gives a score similar to pretests in S3S4, which might be expected.

The authors also believe the ability to draw conclusions about the treatment is constrained because (for good reason) to avoid disrupting its normal practice the College did not allow the authors to assign four groups randomly, which potentially could have undermined the strength of the design.

To use final grades as a measure of learning outcomes as an indicator of engagement related to treatment, the authors examined the relationship between grades of students in S1, S2, S3 and S4. T-tests on the differences between S1 and S2 and S3 and S4 were conducted to determine if there was a metacognitive effect of the pretest on grades between the treatment groups and the control groups. Data (final grades in the course) was converted to ranges where F=0 and A=4 (Brokaw & Merz, 2000). Grades were treated as a metric variable.

Table 5: Means, t-values and probabilities for comparison groups

Grades converted to grade points awarded	S1S2 mean	S3S4 mean	S3 mean	S4 mean	t	p
	3.33	2.91			2.29	0.023
	3.33		2.66		2.60	0.011
	3.33			2.96	2.06	0.040
			2.66	2.96	-1.23	0.222

Overall, average mean grades in the S1S2 were higher than mean grades in S3 and S4, but 3 of the 4 course in S1S2 were the same course taught by the same instructor. Based on the t-test, the authors found a significant pretest effect between S1S2 and S3S4. Therefore, we cannot accept assumptions that treatment caused outcomes in S2 and S4. Additionally, the authors concluded the following: (a) the large N in S4 provides sufficient data to suggest the treatment had an effect between pretest and posttest scores, but (b) disparate N in each group may have skewed the overall analysis; and (c) grades may not be a reliable indicator of students' willingness to engage in their own learning. Finally, most conclusions that we could make based on this analysis would be mere guesswork.

5. Limitations

The authors recognize sampling error as a threat to our research, especially given the wide variations in analysis of separate groups of students and the overall population (N = 691). The numbers of students in each class, and varying levels of upper and lower-division courses may make reliable comparisons difficult. Upper division students simply may be more willing to engage in and accountable for their own learning. Therefore, generalizations should be made with caution, especially across different types of marketing communication courses.

Overall, 29 courses were included in the analysis. While the authors focused on only two course design factors to interrogate question 2, during the study we became aware of the significant differences in instructional methods. Whether and how these methods influenced the findings unfortunately is not known. Students' self-reports would have augmented data about their perceptions of the specific pedagogical tools. This information would have been invaluable as a measure of their willingness to engage in the learning process.

In randomly selecting the questions to test for student engagement, no attempts were made to test for instrument validity, nor was there internal consistency in managing definitions of the terms in each question. The literature on the Solomon four-group design as it deals with a potential testing threat is replete with discussions of the cause of change in the dependent variable. In this study, controlling for measurement error in the treatment group, especially as measured by pre- and posttest analysis, may have rendered the conclusions invalid. Finally, the authors note the deficiencies in using course grades as a test of learning outcomes. At best, the results are cursory.

6. Conclusions and implications

One of the strengths of this research project is its extensive literature review which provided a foundation for the study. Though the results of the treatment effect were inconclusive, the study provides insight into the metacognitive effect a pretest may have on students' perception of engagement. The authors acknowledge ongoing discussion and current questions in academic circles about student learning styles. Late in our research, we became familiar with Merrill (2000) and were informed by his arguments. He found when students are aware of their preferred learning styles, they also may be incented to start learning in new ways. We intend to explore these notions as we continue our research. Even so, applying Fleming's VARK LSI gave us a springboard to modify and shape the pedagogy in our courses. In so doing, we also noted indications that students' engagement in the course and its content increased. For that, we are gratified.

However, we were disappointed that our various analyses were inconclusive. Overall, we concluded that knowing what we don't know is often as important as knowing what we do know. In particular, to guide further research, clearly defined influences and outcomes are critical in advancing our research and understanding.

With regard to analyses of data, the authors support direct extensions of this study to include additional antecedent variables, including refining the measurement and analysis of existing variables, especially how a particular pedagogy is applied. Though we expected to find learning outcomes to be related to pedagogically affect, unless specific parameters for grading are developed for all faculty involved in the study, course grade is a meaningless construct. Thus, a more careful consideration of the appropriateness of particular dependent variables for specific research on this question is called for.

References

- American Assembly of Collegiate Schools of Business, (1994). *Standards for business accreditation*. Rev. ed. St. Louis, MO: American Assembly of Collegiate Schools of Business.
- Barr, R. B. & Tagg, J. (1995) From teaching to learning: a new paradigm for undergraduate education. *Change*, 95 (27) 6.
- Biggs, J., & Moore, P. (1993). *The process of learning*. (3rd ed.). Sydney: Prentice Hall.
- Brokaw, A. J. & Merz, T.E. (2000). The effects of student behavior and preferred learning style on performance. *Journal of Marketing Education*, 1 (spring), 44 – 53.
- Chickering, A. W. & Gamson, A. F. (1987) Seven principles for good practice in undergraduate education. American Association for Higher Education Bulletin. March 1987. 3-7.
- Davis, R., Shekhar, M., VanAuken, S. (2000) Relating pedagogical preference of marketing seniors and alumni to attitude toward the major. *Journal of Marketing Education*, 22 (August), 147 – 154.
- DeBello, T. C. (1990). Comparison of eleven major learning style models: Variables, appropriate populations, validity of instrumentation, and research behind them. *Journal of Reading, Writing and Learning Disabilities International*, 6, 203 – 222.

Diamond, R. (1989). *Designing and improving courses and curricula in higher education*. San Francisco: Jossey-Bass Inc.

Dunn, R. & Griggs, S. (2000). *Practical approaches to using learning styles in higher education*. Westport, CT: Bergin and Garvey.

Dunn, R. S. & Dunn, K. J. (1978). *Teaching Students Through Their Individual Learning Styles: A Practical Approach*. Reston, VA: Prentice-Hall Co.

_____ (n.d.). Learning styles: unlock your true potential.
http://www.learningstyles.net/index.php?option=com_content&task=view&id=20&Itemid=70&lang=en#questions. Downloaded Aug. 18, 2009.

Entwhistle, N., Hanley, M., & Hounsell, D. (1979). Identifying distinctive approaches to studying. *Higher Education*, 8, 365- 380.

Felder, R., & Silverman, L. (1988, Updated 2002). Learning and teaching styles in engineering education. *Engineering Education*. 78, 674-678.

Felder, R. M., & Spurlin, J. E. (2005). Applications, Reliability, and Validity of the Index of Learning Styles. *International Journal of Engineering Education*, 21(1), 103-112.

Fleming, N. & Mills, C. (1992) Not another inventory, rather a catalyst for reflection. From *To improve the academy*. 11, 137.

Fleming, N. (1995). I'm different; not dumb. Modes of presentation (VARK) in the tertiary classroom, in Zelmer, A. (ed). *Research and Development in Higher Education*,

_____ (2001). *Teaching and learning styles: VARK strategies*. Christchurch, New Zealand: N. D. Fleming.

_____ (n.d.). VARK: a guide to learning styles. Retrieved Dec. 5, 2007 from <http://www.vark-learn.com/english/index.asp>.

Goebel, D. J., Humphreys, M. A., Miller, E. E. (n.d) The Impact of Learning Styles and Course Delivery Method on Learning Outcomes: A Quasi-Experiment Investigating the Case Method of Course Delivery. Unpublished paper submitted to Scholarship of Teaching and Learning in Higher Education Small Grant Program at Illinois State University.

Hawk, T., & Shaw, A. (2007). Using learning style instruments to enhance student learning. *Decision Sciences Journal of Innovative Education*, 5, 1 – 19.

Holliday, W. & Qin, L. (2004). Understanding the millennials: Updating our knowledge about students. *Reference Services Review*, 32, 356-366.

Hoover, E. (2007). Researchers challenge view of millennial students. *The Chronicle of Higher Education*, 54, NA.

- Howe, N., & Strauss, W. (2000). *Millennial rising: The next great generation*. New York: Vintage.
- _____ (2007). *Millennials go to college*. Great Falls, VA: Lifecourse Associates.
- Karns, G. (2006) Learning style differences in the perceived effectiveness of learning activities. *Journal of Marketing Education*, 23, 145-151.
- Keefe, J. W. (1979) Learning style: An overview. In NASSP's *Student learning styles: Diagnosing and proscribing programs*. National Association of Secondary School Principals. Reston, VA. 1 – 17.
- McGlynn, A. (2008). Millennials in college: How do we motivate them?" *Education Digest*, 73, 19 – 22.
- Merrill, D. (2000). Instructional strategies and learning styles: Which takes precedence? In Robert Reiser and Jack Dempsey (Eds.). *Trends and issues in instructional technology*. Upper Saddle River, N. J. Prentice Hall.
- Morton-Rias, D., Dunn, R., Terregrossa, R., Geisert, G., Mangione, R., Ortiz, S., and Honigsfeld, A. (2007). Allied health students' learning-styles identified with two different assessments. *Journal of College Student Retention*, 9, 233-250.
- Prugsamatz, S., Heaney, J., & Alpert, F. (2007). Measuring and investigating pretrial multi-expectations of service quality within the higher education context. *Journal of Marketing for Higher Education*, 17, 17-47.
- Raynor, S. (2007). A teaching elixir, learning chimera of just fool's gold? Do learning styles matter? *Support for Learning*, 22, 24-29.
- Sternberg, R. (2001). Epilogue: Another mysterious affair at styles. In R.J. Sternberg & L.F. Zhang (Eds.), *Perspectives on thinking, learning and cognitive styles*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Stewart, K. L. & Felicetti, L.A. (1992). Learning styles of marketing majors. *Educational Research Quarterly*, 15, (2), 15-23.
- Taylor, S. A., Humphreys, M., Singley, R., & Hunter, G.L. (2004). Business student preferences: Exploring the relative importance of web management in course design. *Journal of Marketing Education*, 26, (1), 42-29.
- Tileston, D. W. (2005). *10 best teaching practices: how brain research, learning styles and standards define teaching competencies*. Thousand Oaks, CA: Corwin Press.
- Weimer, M. (2002). *Learner-Centered Teaching*. San Francisco: Jossey-Bass, Inc.
- Wilson, M. (2004) Teaching, learning and the millennial student. In M.D. Coomes & R. DeBard (Eds.), *Serving the Millennial Generation*. San Francisco: Jossey-Bass, Inc.
- Young, M. R., Klemz, B.R., Murphy, J. W. (2003) Enhancing Learning Outcomes: The Effects of Instructional Technology, Learning Styles, Instructional Methods, and Student Behavior. *Journal of Marketing Education*. 25, 2.130-142.